REMARKS

Claims 13-23 are pending in the application. Claims 13 and 19-23 are being amended. No new matter is being added.

Rejections under 35 US 112, paragraph 2

Claims 13-23 are rejected under 35 US 112, paragraph 2 for the following reasons:

1. in claims 13-18, 21-23 and 19-20, Z^4 and Z^5 are not defined;

2. the phrase "particularly in man" in claim 22 is generic and subgeneric; and

3. Claim 23 lacks a period at the end of the claim.

Applicants have amended the claims consistent with the Examiner's suggestions. Reconsideration and withdrawal of the rejection is respectfully requested.

Rejection for nonstatutory double patenting over 10/477,900

Claims 13-23 are provisionally rejected under the judicially created doctrine of double patenting over the claims of copending Application No. 10/477,900.

Applicants respectfully traverse. If this double patenting rejection is the only remaining rejection, Applicants respectfully request the Examiner to withdraw the double patenting rejection and permit this application, which was filed earlier than the '900 application, to issue without a terminal disclaimer. See MPEP 804 (page 800-17, Rev. 3, August 2005)[1].

[1] Applicants note that in the copending '900 application, the Office determined that there was no motivation to modify the PCT equivalent of the instant case (WO 00/21948) to arrive at the '900 compounds having the recited R^5 group (see '900 Office Action mailed 1/21/05, ¶ 8).

Rejection for nonstatutory double patenting over 10/484,563

Claims 13-23 are provisionally rejected under the judicially created doctrine of double patenting over the claims of copending Application No. 10/484,563. Applicants respectfully traverse.

The '563 application discloses and claims compounds of a formula (I) which includes a piperidine ring moiety linked to a bicyclic heterocyclic moiety via an A-B-$(CH_2)_n$ linking group. The piperidine ring is substituted, *inter alia*, with a group R^3 at the 4-position of the ring. R^3 may be any of a number of disclosed groups, set forth starting on page 1, line 30 of the specification (see also '563 current claim 1). These groups do not include hydrogen. Thus, the carbon to which R^3 is attached may be described as a tetrasubstituted carbon [2].

The '563 piperidine ring is also substituted with a group $R^3{}_1$ at the 2- or 3-position of the ring. $R^3{}_1$ may be, as disclosed and presently claimed, hydrogen or a group listed for R^3, provided that a 2-position $R^3{}_1$ is not optionally substituted hydroxyl, amino, trifluoromethyl or halogen ('563 current claim 1). The carbon to which $R^3{}_1$ is attached may be described as a di- or tri- substituted carbon (when $R^3{}_1$ is H or a group R^3, respectively).

Comparing the '563 claims to the present claims, the present claims are also directed to compounds of a formula (I), which includes a piperidine ring moiety linked to a bicyclic heterocyclic moiety via an A-B-$(CH_2)_n$ linking group. However, in contrast to the '563 claims, the instant claims do not have a substituent R^3 at the 4-position of the piperidine ring. Thus, the 4-position piperidine carbon is always a tri-substituted carbon.

The piperidine ring of the present claims is also substituted with groups R^2 and R^3. R^2 is attached to the ring at the 3-position. R^3 is attached to the ring at the 2- or 3- position. In particular, either (1) R^2 is hydrogen and R^3 is in the 2- or 3-position and is hydrogen or (C1-6) alkyl or (C2-6) alkenyl optionally substituted with defined groups; or (2) R^3 is in the 3-position and R^2 and R^3 together are a divalent residue $=CR^{5^1}R^{6^1}$. Thus, the carbon to which R^2 and/or R^3 is attached is either disubstituted (R^2 and R^3 = H) or trisubstituted (R^3 is other than H, or forms a divalent residue with R^2).

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[2] As used in these remarks and as will be understood by those having ordinary skill in the art, the degree of substitution of a carbon atom (e.g., tetra-, tri- or di- substituted), is based on the non-hydrogen substituents on the carbon atom.

In view of the above, it is clear that there is no overlap between the present claims and the '563 claims. Furthermore, the present claims would not be obvious from the '563 claims.

The Examiner posits that the instant compounds are positional isomers of the copending '563 compounds, citing an alkoxycarbonyl or aminocarbonyl R^3 substituent at the 4-position of the copending case, versus R^3 in the 2- or 3- position in the instant case. The Examiner concludes that positional isomers have been held *prima facie* obvious because compounds of close structural similarity are expected to have similar properties. See ¶ 8 of the Office Action mailed 1/21/05.

Contrary to the Examiner's position, the compounds of the present claims would not be expected by one having ordinary skill in the art to have similar properties to the '563 claimed compounds. Tetrasubstituted carbon atoms have substituents (such as R^3 in '563) in a much more sterically encumbered environment than a substituent on a di- or trisubstituted carbon atom (such as R^3 in the present case), such that there tends to be less accessibility of the substituents on the tetrasubstituted carbon. The steric encumbrance at the tetrasubstituted carbon can give rise to significant steric effects. For example, a substituent at a tetrasubstituted carbon may have different interactions with a target receptor (affecting activity) and/or different solvation properties (affecting, for example, absorption and/or penetration through a bacterial or mammalian membrane). Thus, a non-hydrogen 4-substituent at a tetrasubstituted carbon atom (as in '563) is clearly dissimilar to either a 2- or 3- non-hydrogen substituent at a tri- substituted carbon atom (as in the present case where R^3 = optionally substituted(C_{1-6})alkyl or $C_{(2-6)}$alkenyl, or forms the divalent residue with R^2). One having ordinary skill in the art would not predict these substituents in different positions to behave similarly.

In view of all of the above, Applicants respectfully submit that the present claims are not obvious in view of the '563 application claims. Reconsideration and withdrawal of the rejection is respectfully requested.

Notwithstanding these remarks, if this double patenting rejection is the only remaining rejection, Applicants respectfully request the Examiner to withdraw the double patenting rejection and permit this application, which was filed earlier than the

'563 application, to issue without a terminal disclaimer. See MPEP 804 (page 800-17, Rev. 3, August 2005).[3]

Conclusion

Applicants have addressed each of the rejections and objections raised by the Examiner. If any matters remain to be resolved before allowance, or discussion of any matter will facilitate the prosecution of this application, the Examiner is encouraged to call the undersigned attorney at the number provided below.

Respectfully submitted,

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[3] Applicants note that in the copending '563 application, the Office withdrew a rejection based on obviousness-type double patenting over the instant application ('563 Office Action mailed 11/30/05, page 3).